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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,881	01/25/2001	Michael M. Kearney	2402-4283.1US	5490

7590 12/11/2003  
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EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

09/769,881

**Applicant(s)**

KEARNEY ET AL.

**Examiner**

Ivars C. Cintins

**Art Unit**

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

Claim 16 is objected to because of the following informality. The term "rspective" (line 8) appears to be a typographical error, and should be changed to "respective."

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (U.S. Patent No. 3,849,306), Brown (U.S. Patent No. 4,673,507) or Chinn (U.S. Patent No. 5,626,750) in view of Kearney (U.S. Patent No. 5,938,333), Coppens (U.S. Patent No. 6,333,019), Kearney et al. (U.S. Patent No. 6,616,327), WO 98/14268 or WO 99/48599. Each of the primary references discloses a fluid processing system comprising a shallow bed of ion exchange resin. The claims differ from each of these primary reference systems by reciting a fluid distributor having conduits positioned in separate planes. Each of the secondary references discloses a fluid distributor and/or collector of the type recited (see Figs. 2-4 of Kearney and WO 98/14268; Fig. 3 of Coppens; and Fig. 6 of Kearney et al. and WO 99/48599). It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the distributor and/or collector of any secondary reference in the system of any primary reference, in order to obtain the advantages disclosed by each of these secondary references (i.e. more uniform flow) for the system in each of these primary references. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a sufficient number of distributors/collectors to obtain the recited population density (claims 3, 4 and 7-16) in any of the thus modified primary reference systems, in order to ensure that every

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portion of the ion exchange bed in each of these modified primary reference systems is brought into uniform contact with the fluid undergoing treatment. Similarly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ beds having the recited diameter to height ratio (claims 2 and 7-16), in order to ensure that the fluid undergoing treatment is adequately contacted with the ion exchange resin material.

Applicant's arguments filed October 8, 2003 have been noted and carefully considered, but no longer appear to be relevant in view of the new grounds of rejection.


Cox et al. (U.S. Patent No. 4,999,102) and Kearney et al. (U.S. Patent No. 5,354,460) show similar fluid distributor/collector systems.

The proposed drawing changes filed October 8, 2003 are approved.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Blaine Copenheaver, can be reached at (703) 308-1261.

The centralized facsimile number for the USPTO is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

  
Ivars C. Cintins  
Primary Examiner  
Art Unit 1724

I. Cintins  
December 6, 2003